Dépannage du problème de transfert d'appels audio au moment du transfert SRVCC dans VoLTE

Contenu

Introduction

Ce document décrit comment résoudre le problème qui se produit lorsqu'un appel audio dans VoLTE ne transfère pas de manière transparente au moment du transfert SRVCC.

Conditions préalables

Conditions requises

Cisco vous recommande de prendre connaissance des rubriques suivantes :

- Connaissances matérielles de 5000/5500
- StarOS

Components Used

Ce document n'est pas limité à des versions de matériel et de logiciel spécifiques.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. Si votre réseau est en ligne, assurez-vous de bien comprendre l’incidence possible des commandes.

Abréviations

VoLTE	Évolution de la voix sur le long terme
SRVCC	Continuité d'appel voix radio unique
CCR	Demande de contrôle de crédit
CCA	Réponse de contrôle de crédit
AVP	Paire de valeurs d'attribut

PCRF	Fonction de règle de politique et de facturation
PCEF	Fonction d'application des politiques et de tarifica
SGW	Passerelle de service
PGW	Passerelle réseau de données de paquets
MME	Entité de gestion de la mobilité

Problème

Le fournisseur de services a indiqué que même si la remise SRVCC a réussi à MME, l'appel VoLTE n'a pas été transféré de manière transparente au réseau 2G/3G existant. Une fois le transfert SRVCC terminé, MME a envoyé le message **DELETE_BEARER_COMMAND** à SGW avec l'indicateur de support vocal comme vrai et la libération du support à PGW a réussi. Cependant, lors d'une communication ultérieure entre PGW et PCRF, il a été observé que PGW ne notifie pas PCRF en tant que PS_to_CS_Handover même si SRVCC a réussi à la fin MME.

Dépannage

Cette section fournit des informations afin de résoudre le problème de gestion des appels audio lorsqu'il est transféré de VoLTE vers un réseau 2G/3G hérité via le transfert SRVCC.

Collecte des traces « mon sub » avec la remise SRVCC. Voici la séquence de messages échangés entre MME, SGW, PGW et PCRF.

Message **DELETE_BEARER_COMMAND** de MME à SGW en tant qu'indicateur de support vocal true :

```
INBOUND>>>>>  12:17:24:406 Eventid:141004(3)
[SGW-S11/S4]GTPv2C Rx PDU, from 10.206.33.X:30464 to 10.206.31.Y:2123 (57)
TEID: 0x81E0418E, Message type: EGTP_DELETE_BEARER_COMMAND (0x42)
Sequence Number: 0xD2101D (13766685)
GTP HEADER
       Version number: 2
       TEID flag: Present
       Piggybacking flag: Not present
       Message Priority flag: Not present
       Message Priority: NA
       Message Length: 0x0035 (53)

INFORMATION ELEMENTS
       BEARER CONTEXT:
           Type: 93  Length: 10  Inst: 0
           Value:
               EPS BEARER ID:
                   Type: 73  Length: 1  Inst: 0
                   Value: 7
               BEARER FLAGS:
                   Type: 97  Length: 1  Inst: 0
                   Value:
                        VB : 1                                  >> voice bearer as true
       ULI TIMESTAMP:
           Type: 170  Length: 4  Inst: 0
           Value:
               Seconds: 3766718840
```

```
       USER LOCATION INFO:
           Type: 86  Length: 13  Inst: 0
           Value:
               Location type: TAI
               MCC: XYZ
               MNC: AB
               TAC: 0x7D5
               Location type: ECGI
               MCC: XYZ
               MNC: AB
               ECI: 0xE02F902

       UE TIME ZONE:
           Type: 114  Length: 2  Inst: 0
           Value:
               TZ: +5:30
               DST: +0 hour
```

En outre, SGW envoie un message **EGTP_DELETE_BEARER_COMMAND** à PGW :

```
INBOUND>>>>>  12:17:24:407 Eventid:141004(3)
[PGW-S5/S2a/S2b]GTPv2C Rx PDU, from 223.224.X.Y:36368 to 223.224.A.B:2123 (57)
TEID: 0x80F0E1DB, Message type: EGTP_DELETE_BEARER_COMMAND (0x42)
Sequence Number: 0xAD818E (11370894)
GTP HEADER
        Version number: 2
        TEID flag: Present
        Piggybacking flag: Not present
        Message Priority flag: Not present
        Message Priority: NA
        Message Length: 0x0035 (53)

INFORMATION ELEMENTS
        BEARER CONTEXT:
            Type: 93  Length: 10  Inst: 0
            Value:
                EPS BEARER ID:
                    Type: 73  Length: 1  Inst: 0
                    Value: 7
                BEARER FLAGS:
                    Type: 97  Length: 1  Inst: 0
                    Value:
                        VB : 1                                  >> voice bearer as true
        ULI TIMESTAMP:
            Type: 170  Length: 4  Inst: 0
            Value:
                Seconds: 3766718840
        USER LOCATION INFO:
            Type: 86  Length: 13  Inst: 0
            Value:
                Location type: TAI
                MCC: XYZ
                MNC: AB
                TAC: 0x7D5
                Location type: ECGI
                MCC: XYZ
                MNC: AB
                ECI: 0xE02F902
        UE TIME ZONE:
            Type: 114  Length: 2  Inst: 0
            Value:
                TZ: +5:30
                DST: +0 hour
```

En outre, **DELETE_BEARER** est accepté par PGW et initie la suppression du support :

```
<<<
[PGW-S5/S2a/S2b]GTPv2C Tx PDU, from 223.224.A.B:2123 to 223.224.X.Y:36368 (17)
TEID: 0x80F3C18E, Message type: EGTP_DELETE_BEARER_REQUEST (0x63)
Sequence Number: 0xAD818E (11370894)
GTP HEADER
        Version number: 2
        TEID flag: Present
        Piggybacking flag: Not present
        Message Priority flag: Not present
        Message Priority: NA
        Message Length: 0x000D (13)

INFORMATION ELEMENTS
        EPS BEARER ID:
            Type: 73  Length: 1  Inst: 1
            Value: 7
```

De plus, PGW lance un message de mise à jour CCR vers PCRF. Ici, dans Charging-Rule-Report AVP, PGW informe PCRF sur Charging-Rule-Name, PCC-Rule-Status et Rule-Failure-Code.Ici, il est trouvé que PGW envoie le mauvais code de défaillance de règle au PCRF. Comme MME a indiqué la libération du support vocal (comme l'indicateur était vrai), PGW devrait informer PCRF en tant que transfert PS_to_CS. Au lieu de cela, il y a un Resource_Allocation_fail qui est signalé au PCRF.En conséquence, le PCRF envisageait une défaillance dans le réseau 4G et en informait IMS. C'est pourquoi IMS a initié la fin de l'appel VoLTE. Ainsi, bien que SRVCC ait réussi, l'appel n'a pas été transféré de manière transparente au réseau 2G/3G existant.

```
In 3GPP TS 29.212 V13.5.0 (2016-03)
As mentioned in section 3.6, Request of IP-CAN Bearer Termination
If the IP-CAN bearer termination is caused by the PS to CS handover, the PCEF shall report
related PCC rules for this IP-CAN bearer by including the Rule-Failure-Code AVP
set to the value PS_TO_CS_HANDOVER.

In 3GPP TS 29.212 V14.3.0 (2017-03)
As mentioned in section 4.5.6 Indication of IP-CAN Bearer Termination Implications
When the PCEF detects that a dedicated IP-CAN bearer could not be activated or has been
terminated it shall remove the affected PCC rules and send a CCR command to the PCRF
with CC-Request-Type AVP set to the value "UPDATE_REQUEST", including the Charging-Rule-Report
AVP specifying the affected PCC rules with the PCC-Rule-Status set to inactive
and including the Rule-Failure-Code AVP assigned to the value RESOURCE_ALLOCATION_FAILURE.

SRVCC PS-to-CS Handover Indication Support in starOS
This feature helps in notifying the PCRF about the exact reason for PCC rule deactivation on
Voice bearer deletion.
This exact cause will help PCRF to then take further action appropriately.
This feature ensures complete compliance for SRVCC, including support for PS-to-CS handover
indication when voicebearers are released.
If the IP-CAN bearer termination is caused by the PS to CS handover, the PCEF may report related
PCC rules for thisIP-CAN bearer by including the Rule-Failure-Code AVP set to the value
PS_TO_CS_HANDOVER.
```

Message de mise à jour CCR de PGW à PCRF en ce qui concerne l'AVP de rapport de règle de facturation :

```
<<<
Diameter message from 10.0.232.X:32933 to 10.5.40.Y:3869
  Base Header Information:
   Version:            0x01        (1)
   Message Length:     0x000260    (608)
```

```
 Command Flags:      0xc0        (192) REQ PXY
 Command Code:       0x000110    (272) Credit-Control-Request
 Application ID:     0x01000016  (16777238)   3GPP-Gx
 Hop2Hop-ID:         0xb7cf10ce  (3083800782)
 End2End-ID:         0x3b6b4886  (996886662)
AVP Information:
   [M]  Session-Id
      Code:      0x00000107 (263) Session-Id
      Flags:     0x40       (64)  [M]
      Length:    0x00004f   (79)
      Data: 0003-diamproxy.asr55k.gx;1385806608;584234203;5cd9037d-1db02

   [M]  Auth-Application-Id
      Code:      0x00000102 (258) Auth-Application-Id
      Flags:     0x40       (64)  [M]
      Length:    0x00000c   (12)
      Data: 16777238

   [M]  Origin-Host
      Code:      0x00000108 (264) Origin-Host
      Flags:     0x40       (64)  [M]
      Length:    0x00002b   (43)
      Data: 0003-diamproxy.asr55k.gx

   [M]  Origin-Realm
      Code:      0x00000128 (296) Origin-Realm
      Flags:     0x40       (64)  [M]
      Length:    0x00001a   (26)
      Data: cisco.com

  [M]  Destination-Realm
      Code:      0x0000011b (283) Destination-Realm
      Flags:     0x40       (64)  [M]
      Length:    0x00002a   (42)
      Data: PCRF.MNC0AB.MCCXYZ.3GPPNETWORK.ORG

   [M]  CC-Request-Type
      Code:      0x000001a0 (416) CC-Request-Type
      Flags:     0x40       (64)  [M]
      Length:    0x00000c   (12)
      Data: UPDATE_REQUEST (2)

   [M]  CC-Request-Number
      Code:      0x0000019f (415) CC-Request-Number
      Flags:     0x40       (64)  [M]
      Length:    0x00000c   (12)
      Data: 2

   [M]  Destination-Host
      Code:      0x00000125 (293) Destination-Host
      Flags:     0x40       (64)  [M]
      Length:    0x000037   (55)
      Data: PCRF01.PCRF.MNC0AB.MCCXYZ.3GPPNETWORK.ORG

   [M]  Origin-State-Id
      Code:      0x00000116 (278) Origin-State-Id
      Flags:     0x40       (64)  [M]
      Length:    0x00000c   (12)
      Data: 1552081338

   [M]  Subscription-Id
      Code:      0x000001bb (443) Subscription-Id
      Flags:     0x40       (64)  [M]
      Length:    0x000028   (40)
```

```
    [M]  Subscription-Id-Type
       Code:      0x000001c2 (450) Subscription-Id-Type
       Flags:     0x40       (64)  [M]
       Length:    0x00000c   (12)
       Data: END_USER_E164 (0)

    [M]  Subscription-Id-Data
       Code:      0x000001bc (444) Subscription-Id-Data
       Flags:     0x40       (64)  [M]
       Length:    0x000014   (20)
       Data: 121234567891

[M]  Subscription-Id
   Code:      0x000001bb (443) Subscription-Id
   Flags:     0x40       (64)  [M]
   Length:    0x00002c   (44)
    [M]  Subscription-Id-Type
       Code:      0x000001c2 (450) Subscription-Id-Type
       Flags:     0x40       (64)  [M]
       Length:    0x00000c   (12)
       Data: END_USER_IMSI (1)

    [M]  Subscription-Id-Data
       Code:      0x000001bc (444) Subscription-Id-Data
       Flags:     0x40       (64)  [M]
       Length:    0x000017   (23)
       Data: XYZAB1234567891

[M]  Framed-IPv6-Prefix
   Code:      0x00000061 (97) Framed-IPv6-Prefix
   Flags:     0x40       (64)  [M]
   Length:    0x000012   (18)
   Data: Reserved: 00 Prefixlen: 64 IPv6 prefix: 2401:4900:4097:f050::

[M]  User-Equipment-Info
   Code:      0x000001ca (458) User-Equipment-Info
   Flags:     0x40       (64)  [M]
   Length:    0x00002c   (44)
    [M]  User-Equipment-Info-Type
       Code:      0x000001cb (459) User-Equipment-Info-Type
       Flags:     0x40       (64)  [M]
       Length:    0x00000c   (12)
       Data: IMEISV (0)

    [M]  User-Equipment-Info-Value
       Code:      0x000001cc (460) User-Equipment-Info-Value
       Flags:     0x40       (64)  [M]
       Length:    0x000018   (24)
       Data: 9876543211234

[M]  Called-Station-Id
   Code:      0x0000001e (30) Called-Station-Id
   Flags:     0x40       (64)  [M]
   Length:    0x00000b   (11)
   Data: ims

[V] [M]  Charging-Rule-Report
   Code:      0x000003fa (1018) Charging-Rule-Report
   Flags:     0xc0       (192) [V]  [M]
   Length:    0x00006c   (108)
   Vendor-Id: 0x000028af (10415) 3GPP
    [V] [M]  Charging-Rule-Name
       Code:      0x000003ed (1005) Charging-Rule-Name
       Flags:     0xc0       (192) [V]  [M]
```

```
            Length:    0x00001e   (30)
            Vendor-Id: 0x000028af (10415) 3GPP
            Data: I_AD_VOLTE00F72513

         [V] [M]  Charging-Rule-Name
            Code:      0x000003ed (1005) Charging-Rule-Name
            Flags:     0xc0       (192) [V]  [M]
            Length:    0x00001e   (30)
            Vendor-Id: 0x000028af (10415) 3GPP
            Data: I_AD_VOLTE00F72512

         [V] [M]  PCC-Rule-Status
            Code:      0x000003fb (1019) PCC-Rule-Status
            Flags:     0xc0       (192) [V]  [M]
            Length:    0x000010   (16)
            Vendor-Id: 0x000028af (10415) 3GPP
            Data: INACTIVE (1)

         [V] [M]  Rule-Failure-Code
            Code:      0x00000407 (1031) Rule-Failure-Code
            Flags:     0xc0       (192) [V]  [M]
            Length:    0x000010   (16)
            Vendor-Id: 0x000028af (10415) 3GPP
            Data: RESOURCE_ALLOCATION_FAILURE (10)                          >> failure code is
incorrect. It should be PS_CS_Handover

     [V] [M]  Access-Network-Charging-Address
        Code:      0x000001f5 (501) Access-Network-Charging-Address
        Flags:     0xc0       (192) [V]  [M]
        Length:    0x000012   (18)
        Vendor-Id: 0x000028af (10415) 3GPP
        Data: IPv4 223.224.X.Y
```

Solution Dans le réseau du client, un dictionnaire de diamètre rel-8 a été utilisé. Il est trouvé que PS_CS_Handover n'a pas été pris en charge dans rel-8.
Vous devez donc mettre à jour le dictionnaire en 3gpp-r10. Après avoir mis à jour le dictionnaire en 3gpp-r10, la cause est correctement envoyée en tant que PS_CS_Handover.
Après cela, les appels audio des utilisateurs finaux peuvent être transférés en toute transparence vers le réseau 2G/3G existant à partir de VoLTE.

```
ims-auth-service DRA_Gx_SPG
   policy-control
     diameter dictionary r8-gx-standard
     diameter update-dictionary-avps 3gpp-r10    << diameter dictionary updated to 3gpp-r10
```

Message DELETE_BEARER_COMMAND de SGW à PGW comme indicateur de support vocal true :

```
INBOUND>>>>>  From sessmgr:205 tpc_interface.c:1338 (Callid 3cda3ef4) 13:28:21:659
Eventid:141004(3)
[PGW-S5/S2a/S2b]GTPv2C Rx PDU, from 223.224.M.N:39632 to 223.224.P.Q:2123 (57)
TEID: 0x845800CD, Message type: EGTP_DELETE_BEARER_COMMAND (0x42)
Sequence Number: 0xE9625A (15295066)
GTP HEADER
        Version number: 2
        TEID flag: Present
        Piggybacking flag: Not present
        Message Priority flag: Not present
        Message Priority: NA
        Message Length: 0x0035 (53)

INFORMATION ELEMENTS
```

```
        BEARER CONTEXT:
            Type: 93  Length: 10  Inst: 0
            Value:
                EPS BEARER ID:
                    Type: 73  Length: 1  Inst: 0
                    Value: 7

                BEARER FLAGS:
                    Type: 97  Length: 1  Inst: 0
                    Value:
                        VB : 1                                  >> voice bearer as true

        ULI TIMESTAMP:
            Type: 170  Length: 4  Inst: 0
            Value:
                Seconds: 3769747091
        USER LOCATION INFO:
            Type: 86  Length: 13  Inst: 0
            Value:
                Location type: TAI
                MCC: XYZ
                MNC: AB
                TAC: 0x844
                Location type: ECGI
                MCC: XYZ
                MNC: AB
                ECI: 0xDCF8C02

        UE TIME ZONE:
            Type: 114  Length: 2  Inst: 0
            Value:
                TZ: +5:30
                DST: +0 hour
```

De plus, il est accepté par PGW et initie la libération du porteur.

```
<<<
[PGW-S5/S2a/S2b]GTPv2C Tx PDU, from 223.224.M.N:2123 to 223.224.P.Q:39632 (17)
TEID: 0x8064A25A, Message type: EGTP_DELETE_BEARER_REQUEST (0x63)
Sequence Number: 0xE9625A (15295066)
GTP HEADER
        Version number: 2
        TEID flag: Present
        Piggybacking flag: Not present
        Message Priority flag: Not present
        Message Priority: NA
        Message Length: 0x000D (13)

INFORMATION ELEMENTS
        EPS BEARER ID:
            Type: 73  Length: 1  Inst: 1
            Value: 7
```

CCR de PGW à PCRF en ce qui concerne l'AVP de rapport de règle de facturation avec le code d'échec considéré comme PS_CS_Handover.

```
<<<
Diameter message from 10.206.17.X:51119 to 10.5.40.Y:3007
  Base Header Information:
   Version:            0x01        (1)
   Message Length:     0x000260    (608)
   Command Flags:      0xc0        (192) REQ PXY
   Command Code:       0x000110    (272) Credit-Control-Request
   Application ID:     0x01000016  (16777238)   3GPP-Gx
   Hop2Hop-ID:         0xaebac4d3  (2931475667)
   End2End-ID:         0x19b8ec95  (431549589)
  AVP Information:
```

```
[M]  Session-Id
   Code:      0x00000107 (263) Session-Id
   Flags:     0x40       (64)  [M]
   Length:    0x00004e   (78)
   Data: 0007-diamproxy.asr55k.dra.gx;1020935924;202167245;5d0747d1-cd02

[M]  Auth-Application-Id
   Code:      0x00000102 (258) Auth-Application-Id
   Flags:     0x40       (64)  [M]
   Length:    0x00000c   (12)
   Data: 16777238

[M]  Origin-Host
   Code:      0x00000108 (264) Origin-Host
   Flags:     0x40       (64)  [M]
   Length:    0x00002b   (43)
   Data: 0007-diamproxy.asr55k.dra.gx

[M]  Origin-Realm
   Code:      0x00000128 (296) Origin-Realm
   Flags:     0x40       (64)  [M]
   Length:    0x00001a   (26)
   Data: cisco.com

[M]  Destination-Realm
   Code:      0x0000011b (283) Destination-Realm
   Flags:     0x40       (64)  [M]
   Length:    0x00002a   (42)
   Data: PCRF.MNC0AB.MCCXYZ.3GPPNETWORK.ORG

[M]  CC-Request-Type
   Code:      0x000001a0 (416) CC-Request-Type
   Flags:     0x40       (64)  [M]
   Length:    0x00000c   (12)
   Data: UPDATE_REQUEST (2)

[M]  CC-Request-Number
   Code:      0x0000019f (415) CC-Request-Number
   Flags:     0x40       (64)  [M]
   Length:    0x00000c   (12)
   Data: 2

[M]  Destination-Host
   Code:      0x00000125 (293) Destination-Host
   Flags:     0x40       (64)  [M]
   Length:    0x000037   (55)
   Data: PCRF01.NO.DC.PCRF.MNC0AB.MCCXYZ.3GPPNETWORK.ORG

[M]  Origin-State-Id
   Code:      0x00000116 (278) Origin-State-Id
   Flags:     0x40       (64)  [M]
   Length:    0x00000c   (12)
   Data: 1559087623

[M]  Subscription-Id
   Code:      0x000001bb (443) Subscription-Id
   Flags:     0x40       (64)  [M]
   Length:    0x000028   (40)
    [M]  Subscription-Id-Type
       Code:      0x000001c2 (450) Subscription-Id-Type
       Flags:     0x40       (64)  [M]
       Length:    0x00000c   (12)
       Data: END_USER_E164 (0)
```

```
   [M]  Subscription-Id-Data
       Code:      0x000001bc (444) Subscription-Id-Data
       Flags:     0x40       (64)  [M]
       Length:    0x000014   (20)
       Data: 121234567891

[M]  Subscription-Id
   Code:      0x000001bb (443) Subscription-Id
   Flags:     0x40       (64)  [M]
   Length:    0x00002c   (44)
    [M]  Subscription-Id-Type
       Code:      0x000001c2 (450) Subscription-Id-Type
       Flags:     0x40       (64)  [M]
       Length:    0x00000c   (12)
       Data: END_USER_IMSI (1)

    [M]  Subscription-Id-Data
       Code:      0x000001bc (444) Subscription-Id-Data
       Flags:     0x40       (64)  [M]
       Length:    0x000017   (23)
       Data: XYZAB1234567891

[M]  Framed-IPv6-Prefix
   Code:      0x00000061 (97) Framed-IPv6-Prefix
   Flags:     0x40       (64)  [M]
   Length:    0x000012   (18)
   Data: Reserved: 00 Prefixlen: 64 IPv6 prefix: 2401:4900:4071:32ec::

[M]  User-Equipment-Info
   Code:      0x000001ca (458) User-Equipment-Info
   Flags:     0x40       (64)  [M]
   Length:    0x00002c   (44)
    [M]  User-Equipment-Info-Type
       Code:      0x000001cb (459) User-Equipment-Info-Type
       Flags:     0x40       (64)  [M]
       Length:    0x00000c   (12)
       Data: IMEISV (0)

    [M]  User-Equipment-Info-Value
       Code:      0x000001cc (460) User-Equipment-Info-Value
       Flags:     0x40       (64)  [M]
       Length:    0x000018   (24)
       Data: 9876543211234

[M]  Called-Station-Id
   Code:      0x0000001e (30) Called-Station-Id
   Flags:     0x40       (64)  [M]
   Length:    0x00000b   (11)
   Data: ims

[V] [M]  Charging-Rule-Report
   Code:      0x000003fa (1018) Charging-Rule-Report
   Flags:     0xc0       (192) [V]  [M]
   Length:    0x00006c   (108)
   Vendor-Id: 0x000028af (10415) 3GPP
    [V] [M]  Charging-Rule-Name
       Code:      0x000003ed (1005) Charging-Rule-Name
       Flags:     0xc0       (192) [V]  [M]
       Length:    0x00001e   (30)
       Vendor-Id: 0x000028af (10415) 3GPP
       Data: I_AD_VOLTE03D4E98A

    [V] [M]  Charging-Rule-Name
       Code:      0x000003ed (1005) Charging-Rule-Name
```

```
            Flags:     0xc0       (192) [V]  [M]
            Length:    0x00001e   (30)
            Vendor-Id: 0x000028af (10415) 3GPP
            Data: I_AD_VOLTE03D4E989

         [V] [M]  PCC-Rule-Status
            Code:      0x000003fb (1019) PCC-Rule-Status
            Flags:     0xc0       (192) [V]  [M]
            Length:    0x000010   (16)
            Vendor-Id: 0x000028af (10415) 3GPP
            Data: INACTIVE (1)

         [V] [M]  Rule-Failure-Code
            Code:      0x00000407 (1031) Rule-Failure-Code
            Flags:     0xc0       (192) [V]  [M]
            Length:    0x000010   (16)
            Vendor-Id: 0x000028af (10415) 3GPP
            Data: PS_TO_CS_HANDOVER (13)                          >> failure code seen as
PS_to_CS_Handover

     [V] [M]  Access-Network-Charging-Address
        Code:      0x000001f5 (501) Access-Network-Charging-Address
        Flags:     0xc0       (192) [V]  [M]
        Length:    0x000012   (18)
        Vendor-Id: 0x000028af (10415) 3GPP
        Data: IPv4 223.224.X.Y
```

Un dictionnaire de diamètre approprié doit être utilisé pour le transfert transparent d'un appel audio de VoLTE en 4G vers un réseau 2G/3G hérité via le transfert SRVCC. Ceci a été pris en charge après la mise à jour du dictionnaire de diamètre sur 3gpp-rel10 sous ims-auth-service.